CLAIMS

1. A process for estimating basis spectra endmembers in hyperspectral data comprising the steps of:

acquiring hyperspectral data with spectra values;

normalizing all spectra values in the hyperspectral data;

scanning the hyperspectral data to find maxima and minima at each measured wavelength; and

identifying spatial pixels at which maxima and minima are found as possible basis spectra endmembers.

2. A process, as defined in claim 1, further comprising the steps of comparing spectra of the spatial pixels of the identifying step for similarity by calculating correlation coefficients.

3. A process, as defined in claim 2, wherein the comparing step comprises the substeps of:

calculating correlation coefficients;

setting a correlation coefficient threshold;

eliminating spectra with a correlation coefficient above the correlation coefficient threshold; and

confirming remaining spectra as endmembers.

4. A system for estimating basis spectra endmembers in hyperspectral data comprising:

a means for acquiring hyperspectral data with spectra values;

a means for normalizing all spectra values in the hyperspectral data;

a means for scanning the hyperspectral data to find maxima and minima at each measured wavelength; and

a means for identifying spatial pixels at which maxima and minima are found as possible basis spectra endmembers.

5. A system, as defined in claim 4, wherein said identifying means comprises:

a means for setting a correlation coefficient threshold;

a means for eliminating spectra with a correlation coefficient above the correlation coefficient threshold; and

a means for confirming remaining spectra as endmembers.